

Abstract: NeSA202100poster-04: A field evaluation of jalapeño and non-jalapeño chile pepper resistance to *Phytophthora* blight caused by *Phytophthora capsici*

Time: 12:00-1:00 PM

Presenter:

Srijana Dura

Authors:

Srijana Dura¹, Phillip Lujan¹, Soum Sanogo², Ivette Guzman¹, and Robert Steiner³

*Department of Plant and Environmental Science*¹; *Department of Entomology, Plant Pathology and Weed Science*², *Department of Economics, Applied Statistics & International Business*³, *New Mexico State University, Las Cruces, NM, 88003.*

Phytophthora capsici is a destructive pathogen, which causes *Phytophthora* blight in many vegetable crops including chile pepper. Our research aims at evaluating the resistance of jalapeño cultivars in field conditions and identifying the factors associated with reduction of *Phytophthora* blight caused by *P. capsici*. Six jalapeño (NuMex Orange Spice, NuMex Pumpkin Spice, NuMex Jalmundo, TAM Jalapeño, Early Jalapeño, and NuMex Vaquero) and two non-jalapeños (CM-334 and NM 6-4) cultivars were inoculated with *P. capsici* at the fruiting stage. Disease severity index (DSI) and disease incidence (DI) were measured from 10 days after inoculation. The most susceptible jalapeño cultivars with the highest DI and DSI were NuMex Orange Spice, NuMex Jalmundo and NuMex Pumpkin Spice, whereas the least susceptible jalapeño cultivars were Early Jalapeño, TAM Jalapeño and NuMex Vaquero, with the lowest DI and DSI. Early Jalapeño which was found to be susceptible to *Phytophthora* blight in previous studies, had the lowest DSI among all jalapeño cultivars. NuMex Vaquero considered to be resistant to *phytophthora* root rot races 2 and 3 and *phytophthora* foliar blight race 2, was not resistant to *P. capsici* isolate 6347 in year 2020. Knowledge about performance of jalapeño cultivars will provide the chile grower a new method to manage *Phytophthora* blight by selecting less susceptible cultivars in pathogen-infested fields. Use of less susceptible cultivars may help in reducing the pathogen inoculum level in soil.